Blueprint for WLIS taking shape

by Bob Gurda and Ted Koch

Over the summer Wisconsin has taken critical steps on the long path to developing an electronic statewide land information system. Actions in July and early August moved the concept closer to reality—although full implementation would not be completed for several years following funding which might begin a year from now.

The Wisconsin Land Information System (WLIS) is conceived as an Internet-based service that would be used to discover, evaluate, and access land information. In addition, it would allow some display and analysis over the web. WLIS would actually function as a collection of inter-connected nodes on the web rather than a single centralized operation. Nodes across the state, based in various local or regional government offices, would probably come on line over an extended period of years.

The WLIS Project Team's report

In early July, the WLIS Project Team, a joint creation of the Wisconsin Land Council (WLC) and the Wisconsin Land Information Board (WLIB), issued its findings based on meetings that began in January. The 10-member team used a six-city video conferencing arrangement to present an overview of its report and to take questions from the jointly-convened WLIB & WLC and from viewers at the remote sites. The presentation was done by the team's co-chairs, Fred Halfen and Loren Hoffmann.

The full text of the team's 67-page report is available for download or viewing in PDF format from *www.doa.state.wi.us/olis/wlis/*. Appendices account for another 175 pages.

The project team's recommendations generally follow the outline developed by the WLC's Technical Working Group (TWG) a year earlier, with many more specifics including approximate budgetary numbers. An important feature is that data accessible through WLIS would be structured so that it can be integrated across jurisdictional boundaries (e.g., a city/town line, a county line, etc.).

Key features

According to the team's blueprint, WLIS would be developed incrementally over a period of 4-10 years. Initially it would be a land information discovery and access service. Its evolution would be guided by groups of advisors drawn from the producer and user communities, and led by a project manager.

The place within state government where WLIS would be centered was not addressed by the project team, nor which if any parts of the infrastructure ought to be developed or operated by entities outside state government such as the private sector or academia. Another lingering question is how WLIS would be funded, especially considering the recent news that the upcoming state budget will have to be a very tight one due to downwardly-revised revenue estimates. However, these issues will have to be considered prior to state budget language being drafted, and the debate will likely be lively.

Rapid review process

At the July event, Mayor Tim Hanna of Appleton, the chair of the WLC, asked all interested groups to submit their comments on the project team's report by August 11 so that the WLC and WLIB could take steps to make timely joint recommendations for inclusion in the governor's next state budget. That budget is assembled over the summer and fall, then submitted to the legislature in winter with final passage and signing usually occurring that summer.

The TWG was convened to consider the report, and came up with a short consensus review that was coordinated by

WLIB News

by Ted Koch

Since the previous issue of the *Bulletin*, the Wisconsin Land Information Board (WLIB) met on July 11 in Madison. The WLIB's next two meetings are scheduled for September 12 and November 2 in Madison.

Strategic grants policy approved

At its July 11 meeting, the Board approved as policy, a process for encouraging and accepting public comment before awarding local funds under the strategic initiative grants category. In its policy statement, the board said it will identify potential strategic grant initiatives and provide funding estimates in advance so that the board can gather advisory public comment on its proposals. The board intends that the comments will provide guidance for its final grant award decisions. For the 2000 local grant cycle, the board has to determine funding amounts in all four local grant categories by October 15.

County plans nearing completion

At its July 11 meeting, the board approved four more second-generation county land records modernization plans. The board has now approved 69 plans with three remaining. These will be up for approval at the board's September 12 meeting. County plans may be viewed at the Office of Land Information Services website (under Land Information Program): *www.doa.state.wi.us/olis/*

1999 WLIP survey nearing completion

The Wisconsin Land Information Program's (WLIP) 1999 Assessment Survey is nearing completion. The purpose of the survey is to provide a periodic assessment of the status, progress, and benefits of the WLIP to each of Wisconsin's 72 counties. This year the survey, for the first time, is being completed by county land information offices using forms accessible through the Internet. This access has allowed the surveys to be completed much quicker and more efficiently than the previously used paper surveys. At this time, nearly all counties have completed their survey, and preliminary results can be viewed and downloaded at: *www.lic.wisc.edu/wlip2*

Foundational Element Strategic Assessment progresses

Under the guidance of Ben Niemann and Ted Koch, WLIB members, and much effort by Office of Land Information Service's staff, the Board is in the process of conducting a strategic assessment of all fifteen of the WLIP's Foundational Elements. The assessment report, created from county land information plans, results from county surveys, and other documents, provides a summary profile for each element.

Included in each profile is a listing of the authority creating the element, identification of the lead custodial organization(s), current stakeholders, current status, comments on the condition of the element from various state and local agencies, current issues, proposed actions, and fiscal implications.

Strategic assessments have been completed for wetlands mapping, and for the horizontal control network which is part of the broader geographic frameworks element. Final drafts are near completion on pubic access of information, land use mapping, zoning mapping, the vertical control network, natural resources, addressing and the street network system, and administrative boundaries.

WLC News

by Ted Koch

The Wisconsin Land Council (WLC) met on June 14, July 11 (a joint meeting with the WI Land Information Board), and August 24 all in Madison. The next meeting is scheduled for September 26, potentially as a joint meeting with the WLIB, in either Manitowoc or Sheboygan.

Comprehensive planning grants process approved

At its August 24 meeting, the WLC approved the process for awarding fiscal year 2001 comprehensive planning grants. All towns, villages, cities, counties and regional planning commissions are eligible to submit a grant application by the November 15, 2000 deadline. Comprehensive planning requirements for all of Wisconsin's communities were included in the state budget passed in October last year.

To guide grant amounts, the WLC established a "base funding level' according to population categories (for example; $60,000 for 5000 to 10,000 population) for all communities including counties and regional planning commission areas. The WLC will fund planning grants up to 50% of the base amount, or if the plan's actual cost is less than the base cost, up to 75% of the actual cost, but not to exceed 50% of the base cost.

Grant applications will be scored on project criteria and assigned points. Determination of grant scores will be done through a peer review process with final approval made by the Department of Transportation and the WLC. A total of $1.5 million is available for 2001 planning grants.

State Cartographer's Commentary

WLIS recommendations to governor are next

by Ted Koch

I think the presentation of the Project Team's final report on the Wisconsin Land Information System (WLIS) on July 11 was a wonderful event. For the first time, the land information community made use of statewide video conferencing technology which permitted the Project Team's presentation in Madison to be simultaneously viewed by many others across the state.

The Project Team's report was the culmination of five months of intense work, and we all should make an effort to thank the team's ten members and the Office of Land Information Services support staff for the fine work they produced.

The process is underway

Now it is collectively up to the Wisconsin Land Council and the Wisconsin Land Information Board to take the Project Team's report and use it as the basis for forming legislative recommendations to the governor regarding WLIS. Those recommendations have to be on the governor's desk by October 1.

The executive committees of the WLC and WLIB met jointly on August 16 to begin the formation of those recommendations. The major accomplishment at that meeting was to discuss the public comments received on the WLIS report and to ask the Project Team to evaluate and incorporate the comments, to the best extent possible, into the report. The project Team then is to return the revised document to the two executive committees.

Institutional questions need answers

Management and governance of WLIS are big issues yet to be resolved. These, along with a recommendation on funding levels for the next biennium, are the major items needing clear and definite recommendations to the governor.

Regarding management, I believe that to function effectively WLIS will need a full-time project director and support staff even if it turns out that many of the development components are contracted to various organizations. The management of these contracts will require regular oversight by dedicated staff.

Regarding the issue of governance, I like the alternative proposed in the project team's report on creating a participants advisory group and a users advisory group. These groups, which will require the broadest representation of WLIS participants and users, are critical to creating and evolving the vision and application of WLIS. I think it is appropriate that the WLIB and WLC approve the creation of these groups, and that both bodies be held responsible for the advisory group's effective operation and contribution to WLIS.

As the Project Team's report states, WLIS needs to have a mechanism for recognizing and addressing the needs and concerns of stakeholders in operation and development. Vesting that authority in one or two groups governed by the board and council is the only way to go.

Blue print for WLIS taking place, *continued from page 1*

Loren Hoffmann, the Director of the State GIS Service Center in the Department of Administration (DOA). Hoffmann was named as chair of the TWG in July following the resignation of Doug King who had retired from the DOA six months earlier.

The TWG's review identified several items that it felt the project team had not addressed directly enough, including the work done and experience gained over the last several years in developing WISCLINC (the Wisconsin Land Information Clearinghouse) which is on the web at *www.wisclinc.state.wi.us/*. A review conducted by the Wisconsin Land Information Association (WLIA) made the same point.

Other comments from both the TWG and the WLIA include that the roles of the WLIB and the WLC relative to WLIS should be more clearly delineated, with the data side being the responsibility of the WLIB and the application side being under the WLC's wing.

What's next?

Following the August 11 comment deadline, the executive committees of the WLIB and the WLC met on August 16 to discuss the WLIS Project Team report. They asked the Project Team to convene once again to clean-up various minor edits and clarifications in the report; to enhance the discussion of near-term benefits and outcomes of investment in the system; and to revise the executive summary so it is more focused on the desirability and benefits of WLIS. Once the Project Team makes and submits those changes, the WLC and WLIB Executive Committees will again reconvene to work on other recommendations to the governor dealing with WLIS governance, funding, etc. by the Oct. 1 budget deadline.

To keep up on developments, check the SCO web site's "News" section. We will be posting updates there regularly. And, if you're struggling to keep up with all the jargon related to this subject, visit our "References" section and skim the lists of acronyms and terms we have there!!

Clearinghouse Connection

Continuing Clearinghouse Construction

by AJ Wortley

The Wisconsin Land Information Clearinghouse (WISCLINC) is improving and growing by leaps and bounds this summer. The combination of an FGDC grant through OLIS for metadata training statewide, combined with our current contract from the WLIB have resulted in unprecedented growth and expansion opportunities for WISCLINC.

With the help of a busy crew of graduate students, I have built a new WISCLINC website which serves to highlight lots of new data documentation, particularly from county land information offices. Through this process we have begun to shift from foundational efforts in metadata collection to exploring the additional types of resources a clearinghouse may offer to improve access to these assets.

First a foundation, next build the house.

With metadata as building blocks, we have steadily built a solid foundation of data documentation over the last two years. This input has resulted in a clearinghouse collection of over 150 metadata documents, with two-thirds of that number being contributions from county agencies or being other layers with a local extent. This trend points to WISCLINC as the prime resource for large-scale, local-level information.

And the metadata continues to filter in from GIS shops across Wisconsin. We are maintaining and updating additional resources that provide everything from metadata workshop materials and resource links, to directions for finding other virtual sources of Wisconsin geospatial data.

Continuing tasks that promise to firm up the clearinghouse framework include expanded search capabilities, more dynamic generation of metadata browse tables, and continual building of the metadata and data holdings within. These tasks will move forward under a new crew of graduate student clearinghouse staff taking up residence in September.

Local land info/data catalog constructed

The WISCLINC website's new county catalog format for land information resources compiles a variety of things beyond traditional metadata including: county land information modernization plans, local websites, and eventually local WLIP Assessment survey results.

So, if you haven't visited the Clearinghouse lately, drop by, see if you find what you're looking for, and let us know how the framework looks. We'll leave the light on for you at *www.wisclinc.state.wi.us/*.

Metadata as Virtual Sixth Sense

by AJ Wortley

Ever play that game in grade school? Reach into a bag, and guess what you're touching. The answer must be ascertained with use of only one of your five sensory systems.

Ever get the feeling you're playing that game all over again when you reach into your grab bag file server for the data you need for an application? Welcome to virtual reality... where real information is represented by graphics and we are again limited to only one sense of perception (visual, this time) to recognize if what we are saying is real, *is* actually real!

Now, turn on your meta-receptors...

Enter metadata, virtual container of second-hand sensory information. Metadata provides the bridge of knowledge about a digital asset to fill in the void left by our senses' inability to reach into the computer monitor and get a feel for what's going on. Granted, we have naming conventions, data dictionaries, detailed legends and the like but these means inevitably show their weaknesses at some point.

Now, metadata may not tell you how the ground feels, but it will tell you if soil type is included in the attribute table, and abscissa and ordinate resolution will give you a sense of granularity of the data. It will tell you where the file came from and where it was going for its original purpose. In general, this type of information will be invaluable to potential re-users of geospatial data once the playing field has broadened and there are countless choices that *could* be used for any one data input.

Metadata standards as meta-communication...

This model of metadata as one's virtual sixth sense goes a long way toward explaining some of the difficulties of manually collecting this information for the first time—as well as the difficulty in forming a metadata standard.

Ever try and write down everything you were sensing about an object (data set)? How about trying to take all that sensory and tabular information and arranging it hierarchically? Or displaying it in such a manner as to give another person the same standard impression as you got from first-hand experience?

Widely implemented standards serve to make our world simpler to deal with, by regulating products and methods— including modes of communication. Metadata standards can be seen as streamlining how we communicate our spatial data detail in terms of mode and syntax while leaving flexible the content and presentation of this new sixth sense.

Meta-communication, anyone?

Web-based ortho tools to be developed

FGDC funds SCO & partners

by Bob Gurda

The Federal Geographic Data Committee (FGDC) has announced that they will fund a one-year project in Wisconsin to develop means to catalog and access digital orthophotos (DOPs). The SCO will coordinate the effort which will also be supported by a number of cooperators in Dane County. We expect to begin work in September.

Funding for this project comes through the FGDC's 2000 Cooperative Agreements Program as part of that program's category of framework demonstration projects. Orthophoto images are included in the FGDC's definition of framework: data providing a common base for many uses. The SCO's application was one of four projects approved for year 2000 funding—from approximately 20 applications nationwide.

Setting the stage

Digital orthophotos have been a focus of GIS data development activities in Wisconsin for several years. Since the early 1990's these geometrically corrected digital images created from aerial photos have become recognized as a critically valuable data component of GIS systems for both urban and rural applications. Now, second generation DOPs are appearing, and some people are starting to produce DOPs from historical aerial photos. In other words, DOPs are increasing in number and variety.
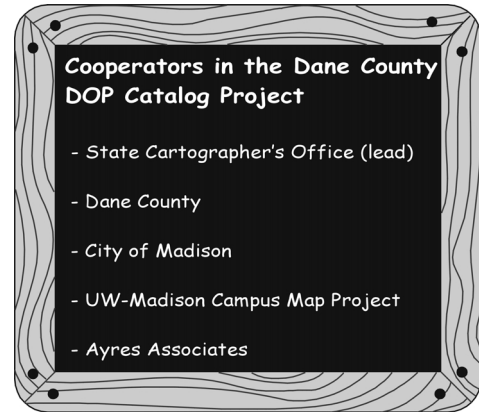
What's the problem?

The variety of orthophotos that already exist for some parts of Wisconsin, and the certainty that the variety will only increase over time, means that people need a way to discover, understand, sample, select, and access the imagery that best fits their needs. At the moment, there is no consolidated way to do this, and as new orthophoto projects come to fruition the difficulty will inevitably increase.

DOPs typically are developed on a project basis. The projects have different characteristics: area covered, date of photography, type of film, resolution (pixel size), accuracy, file format, coordinate system, access fees, restrictions on use, and so on. While many organizations in our state have made a good start on documenting their GIS data holdings by creating metadata files, DOP projects have generally not been well documented.

Dane County offers a suitable challenge

To address these problems, we proposed to the FGDC that we use Dane County as prototype for a system that would allow people interested in digital orthophotos to find out what was available given a variety of choices. To date, there have been seven separate DOP projects covering all or some part of Dane County! In fact, the national pilot project for what be-

Cooperators in the Dane County DOP Catalog Project

- State Cartographer's Office (lead)

- Dane County

- City of Madison

- UW-Madison Campus Map Project

- Ayres Associates

came the National Digital Orthophoto Program was conducted over western Dane County in the late 1980's.

Further, some of the DOPs over Dane County have been processed into secondary coordinate systems, stitched together over large areas, and/or re-sampled to lower resolution. In addition, some people have already been developing DOPs from historical photographs. All together, these represent many different alternatives for people to discover and understand before finding the best choice for their needs.

What about other areas?

Dane County will be a good test due to the diversity in its DOP holdings. The systems we intend to build should be adaptable to any other county, region, or an entire state (or more).

What work is scheduled?

The project has several integrated aspects. First, we will assist the cooperators in documenting their DOP projects, using federal standard metadata. This metadata will be used in a web-based search system which will produce results including maps showing the extent of various existing DOP projects. The system will present these results along with newly-developed educational materials that will help the user understand and evaluate characteristics and potential applications of DOP's.

Secondly, we will utilize non-proprietary software tools developed at the Massachusetts Institute of Technology to provide, via the Internet, the capability to search, view and download the orthoimagery at various levels of detail with image-specific metadata included.

Another part of the project will provide information and educational materials on developing locally-based partnerships for the funding of other orthophoto projects anywhere. This component of the project will use the "Fly Dane 2000" project as a model including a discussion of policy issues, institutional barriers and data maintenance requirements.

SCO's web site popular around the world

by Anna L. Weitzel

The World Wide Web is certainly a chaotic realm with people jumping in and out of sites as fast as their modems will let them. Out of this chaos we are able to pull together only limited information about how our site is being used on a daily, weekly, or monthly basis. Before getting down to the number, I want to provide a brief explanation on the limits of web-use monitoring.

Activity-tracking, not people-tracking

Although many web sites will claim to have served a certain number of visitors, it is impossible to know how many people have viewed a site. Rather, we can count how many *requests for files* our web server received from other computers. Every time you link to a new page on our site, your computer requests from our server all text files and graphics files associated with the page.

Consequently, several requests may be logged per visit to one page. To cloud the statistics even further, personal computers and Internet services like America OnLine are able to store (or cache) downloaded files so that when a user returns to a particular page, his or her computer does not have to request those files from the server again. As a result, we have no way to know that a page has been visited a second time.

Assessing how many people have visited a site obviously involves a great deal of guesswork, but we are able to know the following with certainty:

- The number of requests made to our server
- The date and time of each request
- Which text and graphics files were downloaded
- Which Internet address (host) asked for the files
- The make and model of a visitor's browser
- Which page referred the person to our site
- Which requests failed

A recent traffic report

In the month of April, our site attracted traffic from every continent except Antarctica. Our Maps section received the most requests followed by our Aerial Photography section. In terms of number of bytes downloaded, our Publications section took the lead, and our Address Book was the single most requested page besides our Home Page.

Below are some general statistics about SCO web site usage over one month:

- Successful requests: 83,722
- Average successful requests per day: 2,407
- Successful requests for pages (text & zip files): 41,989
- Average successful requests for pages per day: 1,207
- Distinct hosts served: 9,725
- Data transferred: 1.240 Gbytes
- Average data transferred per day: 36.527 Mbytes

Our latest improvements

The SCO web team continues to craft new pages and improve old ones. The latest changes have been in our Web Links section. We have updated and expanded our list of links relating to cartography, GIS, remote sensing, education and similar topics. This section also has a new design to aid navigation. We have taken special care to highlight sites that offer either on-line, interactive mapping or an extended list of links. You will find the Web Links section under our References heading. Also, within the next month look for changes in our glossary and acronym pages.

SCO staff adjusts again

by Bob Gurda

The first day of classes for the fall semester is around the corner here on the Madison campus, and with that important date we'll have some changes to our student staff.

Christie Miller and Ginny Mason, both graduate students who worked primarily on metadata and clearinghouse web site projects for us over the last several months, will become Teaching Assistants this fall. We are close to selecting their replacements.

Actually, the situation is a bit more complex, as the clearinghouse project's funding is scheduled to end in December. Meanwhile, we are ramping up a new pilot project (as profiled on page 5) to catalog digital orthophoto projects and make information available over the web.

Over on the undergraduate side of our roster, Eric Brey has left to concentrate on finalizing his degree this next year. He worked on many different projects while here, the most visible of which are updates to our aerial photography catalog and the redesign of the geodetic control section of our web site.

Temporary staffer becomes permanent

Since March, Ana Rumm has been working in a limited-term capacity for us as a half-time financial specialist. We are happy to announce that now she has become a permanent part of the SCO staff in that capacity.

Re-establishes land survey work done 164 years ago

Remonmentation complete in Waukesha Co.

by Ted Koch

Twenty years of Public Land Survey System (PLSS) remonumentation effort in Waukesha County was culminated recently at a ceremony commemorating the completion of monumenting countywide.

The ceremony, conducted in the Kettle Moraine State Forest, Town of Ottawa, completed the remonumentation of a quarter section corner between Sections 26 and 35. During the approximate 30-minute ceremony, Waukesha County Executive Dan Finley set the last numbers in the new concrete monument's brass cap. Comments on the significance of the completion of county remonumentation were offered by Michael Hasslinger, Register of Deeds; Phil Evenson, Executive Director, Southeastern Wisconsin Regional Planning Commission (SEWRPC); and Kurt Bauer, former SEWRPC executive director.

The location of this quarter corner was originally established with the placement of a cedar post by a federal government survey crew on a rainy day in May, 1836. Since that time the land around the corner has had many uses, but today is located deep within the state forest. Later this year, geographic coordinates will be determined for the monument using Global Positioning System survey methods.

Perpetuation of original locations of section and quarter section corners is vital to the continued viability of the PLSS as the foundation for all land ownership. Even though Waukesha County has completed its remonumentaion with more permanent, deeply set concrete markers, continued investment in the maintenance and replacement of dislodged or destroyed corners will be required.

Dan Finley (left) and Lee Kreblin, SEWRPC, setting section numbers in the monument's brass cap.

Kiosks for print-on-demand maps are planned

Nat'l. Geographic embraces digital market

The National Geographic Society has announced that it has acquired Wildflower Productions, a California-based mapping innovator that specializes in CD-ROM and print-on-demand map technology for recreational topographic maps.

The acquisition, which will fold Wildflower into the Society's Maps division, will vault National Geographic into next-generation map distribution and technologies. The business venture—separate from the non-profit aspects of the Society—will offer consumers easy access to thousands of the Society's legendary maps currently archived at its Washington headquarters via map-machine kiosks located at retail outlets and travel centers worldwide, the statement says.

Many of the maps have never been available for sale because retailers do not have the space to stock them, or because of their specialized focus. By storing the maps digitally and printing them on demand, retailers can now offer the complete collection.

50,000 USGS maps added

National Geographic's acquisition of Wildflower also adds more than 50,000 U.S. Geological Survey topographic maps to the Society's vast map resources, and the ability to update these maps using Wildflower TOPO! technology.

Through an arrangement with USGS, the agency's maps have been captured on Wildflower's database and enhanced, forming a seamless map of the entire United States. Consumers will be able to print or download any piece of this map to a scale of their choice, and they may personalize and tailor it according to their interests.

Kiosks ready to go

Individually customized maps may be printed at kiosks or downloaded from the Internet to desk-top printers, personal computers, and hand-held devices. The kiosks are already being tested and more than two dozen will be installed at selected outlets throughout the United States this August.

Eventually the map-machine kiosks, about the size of compact bank ATMs, will number in the thousands and be available worldwide.

(source: National Geographic Society)

Log your experiences, too

Update on trout stream maps

by Bob Gurda

As a follow-up to the story in our previous issue about map resources for locating trout streams, there is a new product that we heard about only recently.

In what essentially appears to be a spin-off product based on their Street Atlas USA product, DeLorme now offers maps and searching software for the entire U.S. on CD-ROM or DVD, integrated with fishing journal software called StreamNotes.

For details, visit *www.delorme.com*. Also, we have discovered that Madison Newspapers carries the Professor Higbie map. Contact their outlet at 800/787-8288.

New titles add to growing bookshelf

URISA books support GIS community

by Bob Gurda

We have received a flyer announcing URISA's latest publications, and they cover different territory than the more common technically-oriented fare. This is reading for people who have to convince management of the value of GIS, and have to struggle developing staff positions.

URISA is the Urban and Regional Information Systems Association, a non-profit professional association.

First, there is Steve Gillespie's *Determining, Measuring, and Analyzing the Benefits of GIS*. Then, our colleague Bill Huxhold from UW-Milwaukee has assembled a useful guide, *Model Job Descriptions for GIS Professionals*. Finally, Pete Croswell and Nina Savar have edited the *URISA 2000 Salary Survey for IT/GIS Professionals*.

Each title sells for $69 (or $49 for URISA members). Take a look at *www.urisa.org* to find out more about these new books or to peruse previously published offerings.

Statewide coverage is approaching

Digital ortho production chugs along

by Bob Gurda

The last few months have brought good news on the digital orthophoto (DOP) front. Several significant projects have been completed, with more on the way.

First-time coverage gets big boost

Almost all of the counties in the northern part of the state now have federally-produced digital orthophoto quarter-quadrangle (DOQQ) computer files. In most cases, these represent the first DOP coverage over these areas.

The latest work is the first tangible result of a cooperative funding arrangement between the Wisconsin Land Information Board, several state agencies, and several federal agencies; the project's goal is to complete statewide soil mapping, and the DOQQs are a necessary part of that work. See the lead story in our Winter 1999 issue for details.

The federally-produced DOQQs use scanned NAPP aerial photographs as their image source. The latest images are mostly from 1998 and 1999, with a few from 2000.

To check on status of DOQQ projects, visit *mcmcweb.er.usgs.gov/status/mcmc/wi/wi_doq.html*

Some counties are also considering second-generation DOQQs which don't carry as attractive a federal cost-sharing as the latest first-time arrangement (since federal funds are focused on achieving national coverage first).

DOQQ conversion will be a priority

The federal DOQQs are produced to fit the UTM coordinate system, which few others use. So, conversion to a different coordinate system (often the county coordinate system) is a common follow-on project. A number of private-sector firms have done this kind of work. Contact the SCO for advice on the considerations and options for your final product.

Other projects, mostly second-generation

A number of other aerial photography projects this last spring were designed to acquire imagery to be scanned and corrected to produce DOPs. With few exceptions, these projects are contracted by counties or regional planning commissions, and will result in new DOPs to replace first-generation products from the mid-1990's. In several cases the newer products will provide crisper images than those they replace. The DOP products from these projects will appear soon if they haven't already.

Tom Krauskopf returns to his land information roots

For this issue, we talked with Tom Krauskopf, the new Deputy Administrator of the Division of Housing and Intergovernmental Relations, a unit of the Wis. Department of Administration (DOA). That division includes the Office of Land Information Services (OLIS) which among other things provides support for the Wis. Land Information Board and the Wis. Land Council.

Most people in the state's land information and GIS communities probably don't know your name, yet your roots in this field run far deeper than most of us. What was your initial involvement?

I joined the Department of Administration 28 years ago, following my work on a Masters Degree in Landscape Architecture at UW-Madison where I worked with Ben Niemann and Al Miller on the I-57 project.

In my early years at DOA, I was part of the State Planning Office (which was eliminated in the late 70's). Over the years, I led development of the Inventory of Wisconsin Land Resources Data and the Land Resources Analysis Program Maps. I also helped form programs on metallic mining, farmland preservation, wetland protection, unified aerial photography, etc. In addition, I have served on the Geographic Names Council and the Committee on State Cartography for many years.

> The development of county LIOs appears to be a real success.

In the mid-80's I was a member of the Wisconsin Land Records Committee (WLRC) and contributed to early drafts of the language that created the Land Information Board in 1989. I also served as Director of Federal – State Relations and most recently helped to administer DOA's property management and leasing programs. I'm now back working closer to my professional roots.

You have been away from the center of action in the land information arena during the WLIB's 11-year existence.

What is your initial evaluation of how the Board (and its program) has done?

The democratization of information analysis certainly seems to be the biggest change over that span. Now, instead of relying on the few major institutions with hefty computers, small organizations and individuals are able to perform sophisticated evaluations on their desktop. However, access to timely and appropriate data remains a key.

The development of county land information offices and GIS expertise at that level, spurred on by the Land Information Board, appears to be a real success. I'm impressed by the capabilities many counties and localities demonstrate.

> Lack of widely adopted data standards is a missed opportunity.

On the other hand, I feel the lack of widely adopted data standards represents a missed opportunity, with expensive consequences. It's always difficult for different organizations to develop common objectives and work together. However, the land information program has had the monetary resources to encourage greater movement toward standards that support sharing across boundaries.

Recently, the Legislature adopted the Smart Growth Program. The program, which encourages communities to develop comprehensive plans, places a premium on the ability of local communities to coordinate their insight and vision with all their neighbors. If now in place, common data formats and attributes would make understanding and cooperation among governments far easier.

What specifically would help achieve the integration of land information?

I look forward to the deployment of a Wisconsin Land Information System (WLIS). WLIS will make the need for standards more apparent and, I hope, stimulate action. WLIS will greatly improve knowledge about data, use by a wider group of citizens, and sharing of information.

The Wisconsin Land Information System Project Team discussed the need to develop cross-walk tables so that different data sets can more easily be used together. This will require extra public cost, add time, and divert the attention of some of our most talented people. But it needs to be done.

> The land information community has before it a terrific new opportunity in the form of the Smart Growth Program.

I realize that some standards and common approaches do exist. The land information community certainly has the talent and capacity to do more.

For example, the Land Information Board could focus its resources to push creators of new data toward greater consistency; convene local and state organizations to address common needs; organize efforts to bring in federal resources; and encourage data custodians to make their data available to the public either directly or through WLIS.

Having been a DOA employee for these years, how do you view the role of state agencies in the program?

It appears that they have been less involved than I would have hoped. For better or worse, the constraints that determine where the WLIB may direct its funds also limit the ability of the board to influence actions by state agencies.

What is DOA's position on solving these issues?

DOA does not have some secret "grand plan". A strength of Wisconsin's land information community is its diversity. Organizations anywhere and at any level may develop sound and creative approaches to our needs. I hope we will recognize those efforts and stimulate adoption across the state.

The uses for land information will continue to expand—uses vary from placement of public roads and utilities to emergency response, and from approving title insurance to targeting visiting nurse services. I also think the land information community has before it a terrific new opportunity in the form of the Smart Growth Program.

Smart Growth will command general public visibility and the attention of public officials as it evolves over the next ten years. The need for information critical to the planning process and for coordination will thoroughly test the capability we have to integrate information across jurisdictional boundaries. I hope that the land information community will embrace the program as a strategic opportunity.

You can count on census data

Census 2000 data to be released

by Tanya Andersen

Census 2000 has happened, which means that new demographic and spatial data will soon be available to the public. Spatial data will be available as extracts created from the TIGER database. TIGER is a topological database that describes by geographic coordinates the location and relationship of streets, rivers, lakes, political boundaries, railroads and other geographic features of areas which census data is collected. TIGER files require a GIS to download and process data.

The current version is TIGER/Line 1998. TIGER/Line 1999 is expected to be released in the summer of 2000 and will include additional features such as results from the 1999 boundary and annexation survey, updates from census address listings, and major realignment and assignment of address ranges. TIGER/Line 2000 files are due out in early 2001 and will include results of the 2000 boundary and annexation survey, and results of more TIGER update operations. For the first time ever the Census 2000 tabulation area identifiers and boundaries will be available to the public in the TIGER/Line 2000 release.

Statistical, demographic data will be released throughout the next few years. Apportionment data will be released to the President on December 1, 2000 for the purpose of reapportioning seats in the U.S. House of Representatives. On April 1, 2001 race and ethnic redistricting data will be provided to each state.

Five additional categories of products will be released on a flow basis from June 2001 through September 2003. These will include profiles, printed reports, electronic files, quick tables and geographic summary tables, and microdata files. Demographic data will be available through the Census Bureau and on-line in the form of thematic maps.

Quick tour now available

For an overview, take a look at a new 4-page brochure produced by the Census Bureau. *Introduction to Census 2000 Data Products* highlights new data products resulting from Census 2000, including maps, demographic profiles and detailed statistical tables. Expected release dates also are provided. The Census 2000 data will be published in a variety of media: online on the Internet, CD- ROM, digital video disc and printed reports.

To obtain a copy of the brochure, visit the Census Bureau's Web site at
www.census.gov/mso/www/prodprof/census2000.pdf
or contact the Census Bureau's Decennial Media Relations Team on 301-457-3691 or via e-mail at *2000usa@census.gov*.

Additional information about ordering and viewing data can be found at the main Census Bureau web site at
www.census.gov.

source: Census Bureau

GeoData Alliance idea takes shape

Chaos + Order = Progress?

by Bob Gurda

A year ago we reported on the concept of "chaordism" that was discussed at the 1999 GeoData Forum in Washington, D.C. (If you merge the terms "chaotic" and "ordered", "chaordic" emerges. The idea is that an organization of varied components—such as the broad community that builds and uses geospatial data—might best function as a national resource under this scheme).

Over the intervening months, the Federal Geographic Data Committee (FGDC) has taken action to try to implement the chaordic concept to support the goals of the National Spatial Data Infrastructure. These efforts are being coordinated by the Chaordic Alliance *www.chaordic.org*, a non-profit group.

Process is underway

A Drafting Team and a Working Group have been meeting periodically since February. The implementation process is moving from the discussion phase—where meetings and hearing were used to gather information—into drafting of documents (e.g., a constitution) to establish a GeoData Alliance. The schedule calls for the Drafting Team to finalize its work by September 8.

To date a group of twenty-four people selected from government, private business, and indirect stakeholders (about one-third from each) have been the core participants. Funding from the FGDC has supported this start-up effort. Longer-term funding would require contributions from a wide range of participating organizations.

To keep updated on the GeoData Alliance, visit its web site: *www.geoall.net.*

GeoData Alliance
Organizational Initiative

News: GDA Web site is launched for geospatial enthusiasts everywhere!

Overview
Process
Participants
Where are we?
Documents
Schedule
Contact

Q: *A company I own is developing land in northern Wisconsin around a lake named, on most maps, Mud Lake. Since it isn't a very attractive name, how I can get the name changed to something more appealing to potential buyers, say, something like Golden Pond?*

A: "On Golden Pond", we like it! However, it is not up to us to make the decision. State conservation law gives the authority to change the names and spelling of state lakes, streams, places and other geographic features to the WI Department of Natural Resources (DNR). In doing this, the DNR is directed to work with the cooperation and approval of county boards, and to cooperate with the U.S. Board on Geographic Names to be sure there is no conflict between the state and federal naming of geographic features.

Many years ago, the Natural Resources Board, the entity which oversees the DNR, created the WI Geographic Names Council, with the State Cartographer, State Geologist, and a representative from the WI Dept. of Transportation named as advisors to the council; the WI Dept. of Administration also has a seat.

To initiate a name change or correct a suspected misspelling, a Geographic Name Proposal form has to be completed and submitted to the DNR. Form requirements include the feature's location and description, proposed name (and its origin and significance) and reason for the requested change. Additionally, supporting documents, such as local resolutions and historical data are suggested to be included.

Policies of the state's council and the U.S. Board require that the proposed name not be any living person, that generally only lakes 10 acres or more in size and streams five miles more in length be considered, that local usage be followed whenever possible, and that names with historical significance or with Native American or French origin are appropriate as long as they are not too long or difficult to pronounce. Additional rules may apply to specific requests.

Once a name change has been approved by the council, the originator of the request is notified, and the change recommendation is forwarded to the U.S. Board in Washington D.C. Following acceptance by the board, the new name will appear on official maps when they are revised.

One of the purposes of the Names Council is to reduce the duplication of names. Since we have many Mud Lakes in Wisconsin, changing to something else is very appropriate. However, if Golden Pond has no particular significance to your Mud Lake other than its idyllic sound, the Council may suggest you recommend something more appropriate or historically significant to the local area.

At the DNR, the Council's current chair is Dave O'Malley. He may be reached at 608/266-9275, or omalld@dnr.state.wi.us.

Q: *I remember hearing some years ago about a sign and marker being erected in rural Marathon County where the 45th parallel crosses the 90th meridian. What is the latitude/longitude of the marker now, relative to North American Datum of 1983 (NAD 83)?*

A: The answer to your question is more complicated than you might have guessed. The marker installed in the 1960's near Poniatowski, WI was not placed exactly at the intersection of 45° north and 90° west since that location would have been far out in a farm field. Instead, it was put near a local road (Meridian Road in the Town of Rietbrock) to provide easy public access, at a point roughly 2/10 mile west-southwest of the actual intersection. In PLSS terms, this is in the NW quarter of Section 14, T29N, R4E. The precise position (latitude/longitude) of the marker wasn't determined, and doing so in the pre-GPS era would have been quite costly.

The installation was spearheaded by John Gesicki, a local tavern owner. The sign erected next to the marker explains the special significance of the 45/90 intersection as being half way between the equator and north pole, and a quarter of the way around the earth from the prime meridian that passes through Greenwich, England.

In the 1960's the operative reference system for latitude and longitude was the North American Datum of 1927 (NAD 27). When NAD 83 (1986 adjustment) came along, its parameters and adjustment caused a small shift in latitudes and longitudes across Wisconsin, meaning that the distance from the sign and marker to the (newly redefined) 45°/90° intersection changed a bit.

The U.S. Geological Survey set a monument near the sign in 1975, and determined an elevation (but not latitude/longitude) for it. Using differential methods with centimeter-accurate GPS equipment, the Marathon County Surveyor has determined the position of that monument to be N 44 degrees 59 minutes 56.007 seconds and W 90 degrees 0 minutes 11.428 seconds (relative to the 1991 adjustment of NAD 83). A recent consumer-grade GPS reported slightly different values for the seconds: 57.28 and 13.97, respectively.

Editor's Note: If you have a question, or had a question for which you found an answer that might be of interest to others, please let us know.

More natural resource data to be on line

DNR to serve up land and water databases

by Anna Weitzel

A long-range project by the Wisconsin Department of Natural Resources (DNR) attempts to integrate the tools and data needed to make land and water resource decisions. The project is underway and various parts of it will become operational over the next several years.

Led by the DNR's Integrated Science Services, the Aquatic and Terrestrial Resources Inventory (ATRI) will use a web-based infrastructure to deliver spatial and tabular data from aquatic and terrestrial studies. Metadata and data, including ArcView GIS shape-files, will be contributed by private data-holders around the state, and the DNR will assist in converting and compiling the databases into downloadable form.

Contributors will be able to designate who may have access to their data; some data will be available to the general public while more sensitive information will be restricted to certain user groups, such as resource managers. At log-in the user will submit a brief profile of himself/herself and the type of data he/she is seeking, and the databases returned will be ranked in order of usefulness based on the user's expertise and needs. Users will be able to search for data according to geographic location, data type, and database name, and the site will also offer query and decision-making tools.

Currently the DNR is in the process of identifying existing data and information gaps, populating the databases, setting data standards, and developing the electronic infrastructure to support this extensive operation. They are also developing a grant program to assist individuals in converting their data to Oracle database format. Metadata is expected to be available in summer 2001, and the whole service should be operational in 2003.

source: Wis. DNR

May coincide with GIS Day 2000

DNR's GIS Expo

by Bob Gurda

For a number of years, the approach of fall has meant another edition of the Wis. Dept. of Natural Resources' GIS Expo. This year, it may be moved back a number of weeks to fall on GIS Day, November 15.

As we get the latest news, we will post it on the SCO web site calendar. Stay tuned!

Endorses work on utilities data content

FGDC adopts new Standard

The Federal Geographic Data Committee (FGDC) endorsed a Utilities Data Content Standard earlier this summer. (*www.fgdc.gov/standards/status/sub3_1.html*) The standard specifies the names, definitions, and domains for utility system components that can be geospatially depicted as feature types along with their non-graphical attributes.

The standard supports large-scale, intra-city applications such as engineering and life-cycle maintenance of utility systems. The components of each utility system described in this Utilities Standard are considered to represent features located outside the foundation of an enclosed structure.

This Utilities Standard describes eleven feature classes: compressed air, electrical distribution, electrical monitoring/control, fuel distribution, heating/cooling systems, industrial waste, natural gas distribution, saltwater, storm drainage collection, wastewater collection, and water distribution.

The Utilities Data Content Standard was developed through the FGDC Facilities Working Group chaired by the U.S. Army Corps of Engineers. The FGDC endorsed the standard after it had completed all steps of the FGDC standards approval process (*www.fgdc.gov/standards*).

(source: USGS)

Circle November 15 on your calendar!

GIS Day 2000 starting to take shape

by Bob Gurda

This fall brings the second annual GIS Day celebration. This year's event is scheduled for November 15, the Wednesday of Geography Awareness Week.

We expect that there will be a number of events in Wisconsin again this year, in addition to hundreds or thousands worldwide. (Last year more than 2,400 organizations hosted GIS Day events in more than 91 different countries).

Look for a longer report in our fall issue. In the interim, check our website for key news, and visit the GIS Day website for the big picture at *www.gisday.com*.

USGS E-book demonstrates Landsat applications

Earthshots captures environmental change

by Anna Weitzel

USGS Earthshots is an on-line picture book (or e-book) from the EROS Data Center that documents environmental change as observed from multi-date Landsat imagery. The site's images and supplementary articles describe changes that have occurred in 30 different regions around the world since 1972.

Show it with pictures

By comparing satellite imagery from different dates, researchers can determine how the landscape has changed over time. With Earthshots, you too can visualize the environmental impact of certain factors like weather, volcanic eruptions, urbanization, and war. For each region, the site presents multiple Landsat images spanning a number of years. These images are registered to maps for orientation, and, in some cases, animations, thematic maps, and ground-based photography accompany the satellite images.

Say it with words

The articles, which appear beside the imagery and describe the environmental effects and their causes, complete the stories of the 30 featured regions. The articles not only explain the evidence of change in the imagery but also describe the social, political, and environmental forces that brought about these transformations.

The site also presents a history of remote sensing and the Landsat program as well as a lesson in image interpretation techniques, making Earthshots a well-composed introduction to terrestrial remote sensing.

You can visit Earthshots at *edcwww.cr.usgs.gov/earthshots/slow/tableofcontents*

A vegetation map created from a 1996 Landsat image of the Knife River Delta in Canada and showing the destruction of tundra vegetation by a booming snow geese population. The article on the right explains the causes and effects of increasing flock growth as well the evidence of overgrazing visible in the satellite images.

The "Door" is open

WLIA heading to "Wisconsin's Thumb"

by Brenda Hemstead

The fall meeting of the Wisconsin Land Information Association (WLIA) will be held at the Stone Harbor Resort & Conference Center in Sturgeon Bay on Thursday & Friday, September 7 & 8. As always, anyone is welcome to attend.

Workshop

On September 7, plans include a workshop from 9:00a.m. to noon on "Introduction to ArcIMS". This workshop is intended to introduce ArcIMS software and to demonstrate how to create an ArcIMS web site, including how to incorporate interactive mapping. Topics include a lecture, a demonstration, and a question/answer session: 1) Overview of ArcIMS, 2) ArcIMS Components and Architecture, 3) Data Integration, 4) Authoring and designing Web pages. This workshop is an introductory class for non-programmers. Web knowledge is helpful, but not necessary. General GIS knowledge will be advantageous. Registration fee is $20 member and $30 non-member.

Golf/Croquet Anyone?

For those interested, WLIA invites you to join in for golf (9-holes) or backyard croquet at 1:00 p.m. Visit WLIA's website at www.wlia.org for details and registrations.

WLIS Report; Niagara Escarpment; and Electronic Filing

The next morning's program begins at 8:30a.m. ($25 registration includes lunch) with updates on Year 2000 grant funds, WLIP Annual Survey, WLIS Report, upcoming state budget items and how they relate to WLIA, OLIS budget and future funding considerations. Also, discussions will include how WLIA and

individual members can become involved and help support the programs that the Division of Housing and Intergovernmental Relations oversees, (e.g., bureaus of federal/state relations, demographic services, and coastal management and OLIS) through participation, advocacy, education, communication, guidelines, etc.

Since GPS will be used to survey a par 3 hole from Thursday's golf outing, a presentation will be given showing where the tee, hole, traps, etc. are located. A scatter plot will be generated with some statistical analysis of the groupings (mean, mode, etc), the longest/shortest path taken from the tee, and the closest/farthest to the hole.

The second half of the morning will include a presentation on the inventory and assessment of natural and cultural resources of the Niagara Escarpment in Wisconsin, as well as a panel discussion examining issues related to a 'paperless' environment where land conveyances are transferred electronically from point of origin through the recording process and beyond.

The meeting will conclude at 1:30 p.m. after the lunch and business meeting.

Dec. Meeting: Digital Orthos

The WLIA will be partnering with the Wisconsin Chapter of the Geospatial Information & Technology Association (GITA) for its winter meeting scheduled to be held at the Governor Dodge Motor Inn, Platteville on December 7 & 8, 2000.

For those of you asking what is GITA, it is a national non-profit educational association that focuses on applying automated mapping and facilities management (AM/FM), geographic information systems (GIS), supervisory control and data acquisition (SCADA) and related
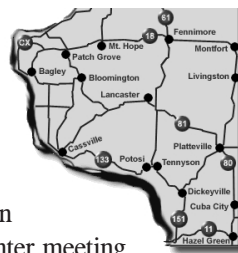
geospatial information technology applications for utilities, government agencies, and other organizations concerned with land records and facilities management.

Workshop & free seminar

On December 7, plans include an all-day workshop on digital orthophotos dealing with such topics as integrating, replacing, and updating older orthos with newer ones, coordinate systems, metadata, software, etc.

Scheduled for 7:00 Thursday evening will be a "free" seminar on providing a general understanding of digital orthos for those with limited exposure to this useful imagery.

WLIS & Digital Orthos

The next morning's program will begin at 8:30 a.m. with a lively discussion on the Wisconsin Land Information System and a panel discussion pertaining to digital orthophotography plus a statewide status update including the digital soil survey.

The meeting will conclude after the lunch and business meeting.

Early October in St. Cloud

Minnesota readies for GIS conference

by Bob Gurda

Our colleagues across the western border are getting ready for the 10th annual Minnesota GIS/LIS Conference. This year it will be held October 4-6 in St. Cloud.

They will have their usual strong line-up of keynote speakers, technical sessions, workshops, exhibitors, and—new this year—a pool tournament!

For details, surf the web to *www.mngisligs.org.*

(source: Minnesota GIS/LIS News)

September 7-8, 2000, **Wisconsin Land Information Association Quarterly Meeting** will be held at the Stone Harbor Resort & Conference Center, Sturgeon Bay, WI. Contact: WLIA at 800/344-0421 or *www.wlia.org*.

September 12, 2000, **The Wisconsin Land Information Board** will meet in Madison, WI. Contact OLIS at 608/267-2707.

September 17-20, 2000, **Wisconsin Counties Association Annual Convention** will be held at the Grand Geneva Conference Center in Lake Geneva, WI. Visit their website at *www.wicounties.org*.

October 4-6, **10th Annual Minnesota GIS/LIS Conference** will be held at the St. Cloud Civic Center in St. Cloud, MN. Call 612/226-5312 or visit *www.mngislis.org*.

October 11-14, the **North American Cartographic Information Society** will present its 20th Anniversary Annual Meeting in Knoxville, Tennessee. Contact NACIS at 414/229-6282 or visit *www.nacis.org*.

October 15-18, **Wisconsin Towns Association 53rd Annual Convention** will be held at the Paper Valley Hotel & Convention Center, Appleton, WI. Visit their website at *www.wisctowns.com* or email at wistowns@mail.ezwebtech.com.

October 25-27, **League of Wisconsin Municipalities' 102nd Annual Conference** will be held at the Radisson Inn in LaCrosse, WI. Contact 800/991-5502 or visit *www.lwm-info.org*.

October 25-27, **2nd Annual Street Smart & Address Savvy Conference** will be held at the Omni Inner Harbor Hotel in Baltimore, MD. Contact URISA at 847/824-6300 or visit *www.urisa.org*

November 2, 2000, **The Wisconsin Land Information Board** will meet in Madison, WI. Contact OLIS at 608/267-2707.

November 6-7, 2000, **GIS in Illinois Conference** will be held at the Radisson Hotel in Lisle, Illinois. Contact: ILGISA, Center for Governmental Studies, Northern Illinois University, DeKalb, IL 60115, or 815/753-0923.

November 15, 2000, **GIS Day** - sponsored by the National Geographic Society, the Association of American Geographers, and Environmental Systems Research Institute to promote awareness of how GIS is used to deal with real-world applications within schools, businesses, and the general public. Visit *www.gisday.com*

December 6-8, 2000, **Wisconsin Land & Water Conversation Association (WLWCA) 47th Annual Conference** will be held at the Ramada Conference Center in Wausau, WI. Visit *www.execpc.com/~wlwca/wlwcacon.html*

December 7-8, 2000, **Wisconsin Land Information Association Quarterly Meeting** will be co-sponsored by **GITA** and held at the Governor Dodge Motor Inn, Platteville, WI. Contact: WLIA at 800/344-0421 or *www.wlia.org*.

2001

January 8-11, 2001, **Coastal GeoTools '01** will be held in Charleston, SC. Email geotools@noaa.gov or visit *www.csc.noaa.gov/GeoTools/*

January 24-26, 2001, **The Wisconsin Society of Land Surveyors Annual Institute** will be held at the Holiday Inn in Stevens Point, WI. Call 414/549-1533.

February 27-March 3, 2001, the **Association of American Geographers** will hold their annual meeting in New York City at the New York Hilton. Visit their website at *www.aag.org*.

February 28-March 2, 2001, **The Wisconsin Land Information Association (WLIA) 13th Annual Conference** will be held at the Radisson Inn in LaCrosse, WI. Contact WLIA at 800/344-0421 or visit www.wlia.org.

March 4-7, 2001, The **Geospatial Information and Technology Association** will hold its annual conference at the San Diego Convention Center in San Diego, CA. Contact GITA at 303/337-0513 or visit *www.gita.org*.
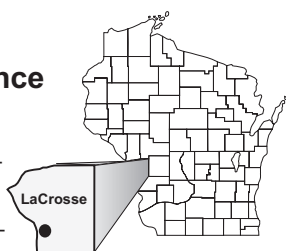
> *To see a more extensive calendar of regional events, and to use hot links to other calendars, visit the SCO website.*

✔ *your calendar*

WLIA's 13th annual conference

by Brenda Hemstead

The Wisconsin Land Information Association (WLIA) will be hosting its 13th annual conference at the Convention Center & Radisson Hotel in LaCrosse, WI from February 27 - March 2, 2001.

The theme for the conference is *The Land Records Story: To Your Community…and Beyond!* Over the past few years, land information systems throughout the state have matured into usable tools for all levels of government and society. With the recent Smarth Growth legislation, communities are forced to look outside their borders on how their planning decisions affect their neighbors. Modernized land information is a powerful tool to help communities work together both within their jurisdiction….and beyond!

The WLIA conference begins with half-day and full-day workshops on a broad range of topics. Conference sessions will be organized in four areas: Organizations & Policy, Applications, Technology & Data, and Vendors. Keynote and plenary speakers will address topics of broad interest to the entire land information community. Visit the vendor exhibits for the latest in software, hardware, data conversion and consulting and participate in the 'poster contest'.

Visit WLIA's website at *www.wlia.org* for the conference countdown and registration information. If you have any questions or suggestions for the conference contact the conference chair, Jim Johnston at 715/485-9170 or email him at landinfo@co.polk.wi.us.

About the SCO...

The State Cartographer's Office (SCO), established in 1973, is a unit of the University of Wisconsin-Madison. The SCO is located on the 1st Floor of Science Hall.

Our permanent staff consists of five people—Ted Koch, State Cartographer (608/262-6852), Bob Gurda, Assistant State Cartographer (608/262-6850), A.J. Wortley, Outreach Specialist (608/265-8106), Brenda Hemstead, Administrative Assistant (608/263-4371), and Ana Rumm, Financial Specialist, plus several part-time graduate and undergraduate students.

The State Cartographer's position and mission is described in Wis. Statute 32.25 (12m). In addressing this role, the SCO functions in a number of ways.

- publishes the *Wisconsin Mapping Bulletin*, catalogs, guides, brochures, and other documents and maintains a web site to inform the mapping community.

- inventories mapping practices, methods, accomplishments, experience, and expertise, and further acts as a clearinghouse by providing information and advice in support of sound mapping practices and map use.

- participates on committees, task forces, boards, etc. The State Cartographer is one of the 15 voting members of the Wisconsin Land Information Board and one of 17 voting members on the Wisconsin Land Council.

- develops experimental and prototype products.

- serves as the state's affiliate for cartographic information in the U.S. Geological Survey's Earth Science Information Center (ESIC) network.

About our Internet Web site...

We maintain a "homepage" on the World Wide Web.

Here, you will find links mentioned in *Bulletin* articles, information on a wide range of mapping topics, news items, functions and activities of the SCO, our on-line aerial photography catalog, a calendar of events, and links to related web sites. We encourage those of you with Internet access check out the SCO's homepage at

http://www.geography.wisc.edu/sco

About the WISCLINC Web site...

A second Internet resource is the on-line Wisconsin Land INformation Clearinghouse (WISCLINC). Its address is:
http://www.wisclinc.state.wi.us

At this site you can search metadata files, download certain data files, learn about our continuing work in this area, and link to other state clearinghouses.

State Cartographer's Office
Univ. of Wisconsin-Madison
Rm. 160 Science Hall
550 N. Park Street
Madison, WI 53706-1491

ADDRESS CORRECTION REQUESTED